BIODIESEL PRODUCTION EQUIPMENT LIST

FIGURE BIO – C

5 – SII 6600 gallon HDPE (poly) tanks for refined oil storage.
1 – Biodiesel continuous flow dosing and reaction module (GSP design) 8 million gallon a year rated.
1 – 1200 gallon stainless steel mixing (reaction) tank.
2 – 10,000 gallon stainless steel decanting (settling) tanks. For settling glycerin out of biodiesel.
1 – 1600 gallon stainless steel coalescing tank (for glycerin separation).
3 – 330 gallon carbon steel columns for ion exchange beads (to adsorb glycerin and soap from biodiesel).
3 – 740 gallon carbon steel columns for ion exchange beads (to adsorb glycerin and soap from biodiesel).
2 – 320 gallon carbon steel columns for ion exchange beads (final polish filtering of finished biodiesel).
5 – WCR -150 sq. ft. plate and frame heat exchangers, steel frame and stainless steel plates (for heating biodiesel).
1 – 61 sq. ft. stainless steel shell and tube heat exchanger (for cooling biodiesel prior to coalesce).
1 – 750 gallon carbon steel tank – 1st stage flash evaporator (for methanol recovery from biodiesel).
1 – 500 gallon carbon steel tank – 2nd stage flash evaporator (for methanol recovery from biodiesel).
1 – 1500 gallon stainless steel tank – glycerin refining flash tank (for methanol recovery from glycerin).
2 – Yula - shell and tube type condensers. 724 sq. ft. carbon steel shell and stainless steel tubes. (For condensing methanol vapor from flash tanks).
2 – Alfa Laval – plate and frame type condensers. 320 sq. ft. steel frame and stailess steel plates (for condensing methanol vapor in recovery tanks).
2 – Tube and fin type condensers. Stainless steel (for condensing methanol vapor from vent stream).
4 – 500 gallon carbon steel tanks (for recovered methanol in evap. systems).
4 – 10,500 gallon stainless steel tanks (for finished biodiesel storage).
6 – SII – 10,500 gallon HDPE (poly) tanks (for finished biodiesel storage).
1 – SII – 2000 gallon HDPE (poly) tank (for chilled glycol – water storage, used in methanol recovery process).
8 – Sock filter housings.
1 – 15,225 gallon carbon steel, epoxy lined tank (for methanol storage).
1 – 15,225 gallon carbon steel, epoxy lined tank (for methyl ate storage).
3 – SII – 6600 gallon HDPE (poly) tanks (for glycerin storage).
2 – Edwards GV model, dry type, vacuum pumps (for methanol recovery).
1 – ETNA – RBI –water heater, 3.6 mm Btu/hr input capacity, natural gas fired, VULCAN 8800 series, Model #HB 3600 (for heating process water).
1 – COOLING TECHNOLOGYS –Model ICA-100, ser.# 23083-01, 5 HP. Water pump, 8- 1.5 HP. Fans, 100 HP. Compressor, R-22 refrigerant, charge = 191 pounds (for process, chilled glycol-water).
1 – JET-A- type filter housing, carbon steel (for filtering finished biodiesel at load out).
1 – Cartridge type filter housing, carbon steel (for biodiesel filtration).
ALL THE ABOVE LISTED EQUIPMENT WAS INSTALLED ON OR BEFORE 12/31/11

1 – APV – 150 sq. ft. plate and frame heat exchanger, stainless steel. (not currently in use).
1 – SII – 3000 gallon HDPE (poly) tank (not currently in use).
1 – J&M FABRICATION, four column, skid mounted, dry wash media system (not currently in use).

CRUSHLINE PROCESS EQUIPMENT LIST

Figure Crush Line – C

3 – Meridian- Seed Storage Bins, carbon steel, 100 ton capacity, cone style, bottom discharge (1 inside building for seed storage and 2 outside building for meal storage).
1 – J&M FAB – feed hopper, carbon steel, 0.5 ton capacity (for seed cleaner).
1 – Delta/ Cimbria – seed cleaner, model # 146, 20Tons Per Hour rated capacity, (for cleaning seed).
4 – Universal Industries – "C" series bucket lift elevators, 500 bushel per hour rating (conveying seed).
1 – Universal Industries – "B" series bucket lift elevator, 75 bushel per hour rating (conveying seed).
1 – J&M FAB. - Clean seed feed hopper, carbon steel, 1.5 ton capacity (for feeding insta-pro presses).
2 – INSTA-PRO MODEL 5005 COLD PRESSES – 2.5 ton per hour rating (for oil extraction).
1 – Desmet / Rose Downs Hot Press – sterling model, 800 series, 16.5 ton per hour rating (for oil extraction).
1 – Insta-Pro Extruder – Model #2002 Double Barrel, 3.8 ton per hour capacity, per barrel (for cooking meal).
1 – Bliss Ind. Hammer Mill – Model #E2215, 20 ton per hour capacity (for granulizing meal).
1 – Gardner Denver Sutorbuilt Blower - #BPL, 1162 CFM capacity (for meal conveyance).
2 – Western Pneumatic Feeder – air lock type, 10 ton per hour rating (for feeding meal into conveyance line).
1 – Eaton Screw Type Air Compressor – Model # EC-SRW 50, 220 SCFM rating, 50 HP motor.
1 – Eagle Compressor Piston Type – Model # C5160V1, 18.5 CFM rating, 5 HP motor. (backup).
1 – Eagle compressor Piston Type – Model #C7180-1, 30 CFM rating, 7.5 HP motor. (back up).
1 – Donaldson Torit Modular Bag House Dust Collector – Model 81MBT10, 15,580 cfm rating.
1 – Howell Conveyer System – 90 TPH rating, 10 HP motor (for loading meal into trucks).
1 – New York Blower- Series 20 GI, 6000 cfm rating, 19 HP motor (for steam collection system).
1 – Alfa Laval Super Decanter Centrifuge- Model # PONX414B-316, 5000 pounds per hour rating, 35 HP main drive motor and 15HP back drive motor (for removing foots from oil).
1 – AARUP-stainless steel tank, 325 gallon capacity (oil surge tank for decanter feed).
7 – Screw Conveyer Corp. - Screw conveyers, Model #12H614 Heavy (seed and meal conveyance).
6 – Highland Tanks- carbon steel tanks, 16750 gallon capacity (for oil storage).
2 – HDPE (poly) tanks- 550 gallon capacity (1 for oil surge out of decanter 1 for pre-coat of filter press).
1 – J-PRESS – Plate and frame type filter press, 25 cu.ft. filtrate capacity, 20 gpm flow capacity (for filtering oil after degumming).
1 – J&M FAB. Dirty Seed Surge Hopper- carbon steel, 2.5 ton capacity.
1 – J&M FAB. Filter Press Clean Out Tray- carbon steel, 300 gallon holding capacity.
1 – Poly and aluminum tote – 325 gallon capacity (for rinse water to rinse decanter centrifuge).
1 – Custom built 4,000 CFM Cyclone with custom built fan.